

X15642.ST25.txt  
SEQUENCE LISTING

<110> Eli Lilly and Company  
<120> MODIFIED GLUCAGON-LIKE PEPTIDE-1 ANALOGS  
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<140> US 60/385927  
<141> 2002-06-04  
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Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Xaa Gly Xaa Xaa Xaa  
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20          25          30

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<223> Xaa = Ser, His, Pro, Lys, Arg, Gly, L-Cys, D-Cys, homocysteine,
penicillamine, NH2, or is absent

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penicillamine, NH2, or is absent

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<223> Xaa = Gly, His, L-Cys, D-Cys, homocysteine, penicillamine, HN2,
or is absent

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is absent

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<223> Xaa = Ser, His, Ser-NH2, His-NH2, L-Cys, D-Cys, homocysteine,
penicillamine, NH2, or is absent

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<223> Xaa = L-Cys, D-Cys, homocysteine, penicillamine, NH2, or is
absent

<400> 7

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His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly

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1                      5                      10                      15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Gly Pro Xaa  
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                     35                      40                      45

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 <223> Xaa = Ala, Val, Ile, or Leu

X15642.ST25.txt

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 <223> Xaa = Ala or Glu

<220>  
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Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Lys Gly Arg Lys  
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X15642.ST25.txt

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 20 25 30

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 <223> Xaa = Gly, Glu, Asp, or Lys



x15642.ST25.txt

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Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Xaa Gly Xaa Xaa Xaa
20          25          30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35          40

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histidine, homohistidine, alpha-fluoromethyl-histidine, or
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<220>
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<220>  
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<220>  
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 1 5 10 15

Gln Ala Xaa Lys Glu Phe Ile Ala Trp Leu Xaa Xaa Gly Xaa Xaa Xaa  
 20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 35 40

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 <223> Xaa = Gly, Glu, Asp, or Lys

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Gln Ala Xaa Lys Glu Phe Ile Ala Trp Leu Xaa Lys Gly Gly Pro Xaa
          20          25          30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
          35          40

<210> 13
<211> 45
<212> PRT

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&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;220&gt;

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&lt;220&gt;

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&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;223&gt; Xaa = Tyr, Trp, or Phe

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;223&gt; Xaa = Leu, Phe, Tyr, or Trp

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;220&gt;

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&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;223&gt; Xaa = Ala or Glu

&lt;220&gt;

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&lt;223&gt; Xaa = Val or Ile

X15642.ST25.txt

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&lt;223&gt; Xaa = Pro, His, Lys, NH2 or is absent

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

&lt;222&gt; (44)..(44)

&lt;223&gt; Xaa = Ser, His, Lys, NH2 or is absent

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

&lt;222&gt; (45)..(45)

&lt;223&gt; Xaa = Lys, NH2 or is absent

&lt;400&gt; 13

Xaa	Xaa	Glu	Gly	Thr	Xaa	Thr	Ser	Asp	Xaa	Ser	Xaa	Xaa	Xaa	Glu	Xaa
1				5					10					15	

Gln	Ala	Xaa	Lys	Xaa	Phe	Ile	Xaa	Trp	Leu	Xaa	Xaa	Gly	Xaa	Xaa	Xaa
			20					25					30		

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
		35					40						45		

&lt;210&gt; 14

&lt;211&gt; 45

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;223&gt; Xaa = Ser, Pro, or His

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;223&gt; Xaa = Ser, Arg, Thr, Trp, or Lys

&lt;220&gt;

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&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;223&gt; Xaa = Ala, Asp, Arg, Glu, Lys, or Gly

&lt;220&gt;

&lt;221&gt; MISC\_FEATURE

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&lt;220&gt;

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X15642.ST25.txt

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His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1          5          10          15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Gly Pro Xaa
          20          25          30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
          35          40          45

<210> 15
<211> 31
<212> PRT
<213> Artificial

<220>
<223> Synthetic construct

<220>
<221> MISC_FEATURE
<222> (1)..(1)

```

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<223> Xaa = L-histidine, D-histidine, desamino-histidine,  
2-amino-histidine, beta-hydroxy-  
histidine, homohistidine, alpha-fluoromethyl-histidine, or  
alpha-methyl-histidine

<220>  
<221> MISC\_FEATURE  
<222> (2)..(2)  
<223> Xaa = Ala, Gly, Val, Leu, Ile, Ser or Thr

<220>  
<221> MISC\_FEATURE  
<222> (6)..(6)  
<223> Xaa = Phe, Trp, Tyr

<220>  
<221> MISC\_FEATURE  
<222> (10)..(10)  
<223> Xaa = Val, Trp, Ile, Leu, Phe, or Tyr

<220>  
<221> MISC\_FEATURE  
<222> (12)..(12)  
<223> Xaa = Ser, Trp, Tyr, Phe, Lys, Ile, Leu, Val

<220>  
<221> MISC\_FEATURE  
<222> (13)..(13)  
<223> Xaa = Tyr, Trp, or Phe

<220>  
<221> MISC\_FEATURE  
<222> (14)..(14)  
<223> Xaa = Leu, Phe, Tyr, or Trp

<220>  
<221> MISC\_FEATURE  
<222> (16)..(16)  
<223> Xaa = Gly, Glu, Asp, Lys

<220>  
<221> MISC\_FEATURE  
<222> (19)..(19)  
<223> Xaa = Ala, Val, Ile, or Leu

<220>  
<221> MISC\_FEATURE  
<222> (21)..(21)  
<223> Xaa = Glu, Ile, or Ala

<220>  
<221> MISC\_FEATURE  
<222> (24)..(24)  
<223> Xaa = Ala or Glu

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> Xaa = Val or Ile

<220>  
<221> MISC\_FEATURE  
<222> (31)..(31)  
<223> Xaa = Gly, His, Lys, or NH2 or is absent

<400> 15

X15642.ST25.txt

Xaa Xaa Glu Gly Thr Xaa Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa  
 1 5 10 15

Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Lys Gly Arg Xaa  
 20 25 30

<210> 16  
 <211> 31  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic construct

<400> 16

His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly  
 1 5 10 15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly  
 20 25 30

<210> 17  
 <211> 39  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic construct

<400> 17

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu  
 1 5 10 15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Gly Pro Ser  
 20 25 30

Ser Gly Ala Pro Pro Pro Cys  
 35

<210> 18  
 <211> 39  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic construct

<220>  
 <221> MOD\_RES  
 <222> (39)..(39)  
 <223> 2,2'-dithiolbis(5-dinitropyridine) is attached to the thiol of  
 Cys at position 39

<400> 18

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu  
 1 5 10 15

X15642.ST25.txt

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Gly Pro Ser  
                   20                  25                  30

Ser Gly Ala Pro Pro Pro Cys  
                   35

<210> 19  
 <211> 32  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic construct

<400> 19

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu  
 1                  5                  10                  15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Cys  
                   20                  25                  30

<210> 20  
 <211> 32  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic construct

<220>  
 <221> MOD\_RES  
 <222> (32)..(32)  
 <223> S-sulfonate (SSO3) is attached to the thiol of Cys at position 32

<400> 20

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu  
 1                  5                  10                  15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Cys  
                   20                  25                  30

<210> 21  
 <211> 32  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic construct

<400> 21

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu  
 1                  5                  10                  15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Lys  
                   20                  25                  30

X15642.ST25.txt

<210> 22  
 <211> 32  
 <212> PRT  
 <213> Artificial

<220>  
 <223> synthetic construct

<220>  
 <221> MOD\_RES  
 <222> (32)..(32)  
 <223> [3-(2-pyridyldithio)propanamide]amide is attached to Lys at position 32

<400> 22

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu  
 1 5 10 15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Lys  
 20 25 30

<210> 23  
 <211> 39  
 <212> PRT  
 <213> Heloderma suspectum

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(39)  
 <223> Exendin-3

<400> 23

His Ser Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30

Ser Gly Ala Pro Pro Pro Ser  
 35

<210> 24  
 <211> 39  
 <212> PRT  
 <213> Heloderma suspectum

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(39)  
 <223> Exendin-4

<400> 24

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15

X15642.ST25.txt

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30

Ser Gly Ala Pro Pro Pro Ser  
35